

HOMEWORK:

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53) (a) $P(D|F) = \frac{11}{16} = 0.6875$

$$P(B|A) = P(B)$$

(b) $P(F|D) = \frac{11}{51} = 0.2157$

$$P(A \cap B) = 0$$

(c) No. There is an overlap btw. Democrats and Females.

(d) No. $P(F) = 0.16$ and $P(F|D) = 0.2157$. These are not equal.

53) (a) $P(B | M) = \frac{190}{320} = 0.59375$

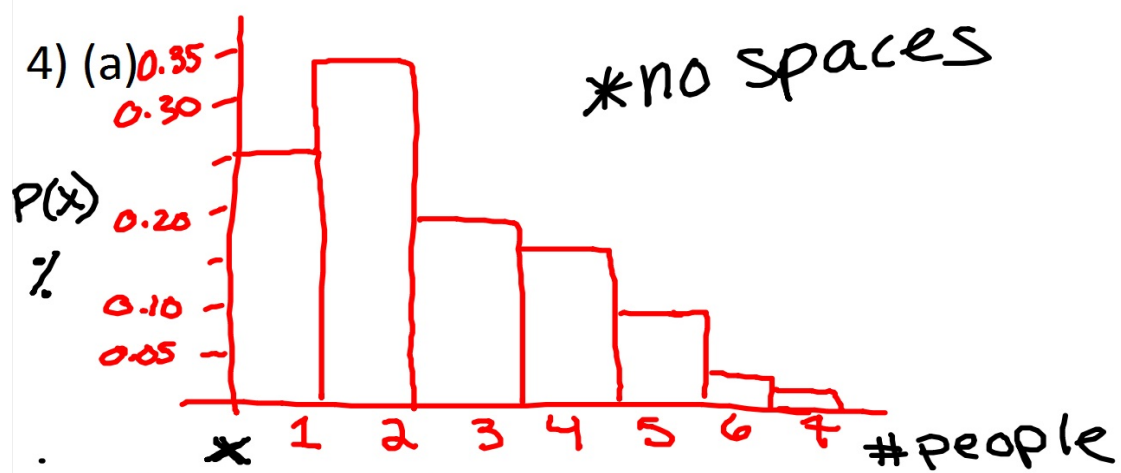
(b) $P(M | B) = \frac{190}{300} = 0.6333$

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(c) No. There is an overlap btw. Breakfast and Males.

(d) No. $P(M) = 0.5378$ and $P(M | B) = 0.6333$. These are not equal.

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(b) $P(X > 2) = 0.43$

\geq

(c) $E(X) = 2.6$

X	1	2	3	...	L ₁
P(x)	L ₂

1 var stats L_1, L_2

Expected Value

aka the mean or average

X				$\leftarrow L_1$
$P(X)$				$\leftarrow L_2$

1 var stats L_1, L_2 \overline{X}

std dev σ_x

Prob. Rules Review #3

1) (a) 0.91

(b) 0.128

(c) No. $P(C \cap D)$ does not equal 0

(d) No. $P(D|C)$ does not equal $P(D)$

2) 0.67

3) 0.14

4) (a) 0.0588

(b) 0.6812

(c) 0.51

(d) 0.75

5) (a) ~~{0}~~

(b) 0

(c) {16, 17, 18, 19}

(d) 5/14

(e) 5/14

(f) 7/14

(g) {12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25}

6) $P(S_n) = 0.41$

$P(S_c \text{ and } S_n) = 0.30$

$$P(S_c | S_n) = \frac{0.30}{0.41} = 0.732$$

7) $50 \text{ nCr } 5 = 2,118,760$

8) $60 \text{ nPr } 3 = 205,320$

9) $(100 \text{ nPr } 4) (96 \text{ nCr } 10) = 1.06 \times 10^{21}$

10) (a)

X	\$29,997	\$997	\$247	\$47	-\$3	L ₁
P(X)	1/50,000	15/50,000	25/50,000	30/50,000	49,929/50,000	L ₂

(b) $E(X) = -\$1.94$ ^{= 7} Lose \$1.94 ..

(c) $(-1.94)(50) = -\$97$ Lose \$97 .

$P(X > \$0) = \frac{71}{50,000} =$